important pathways in the process and contribute to attenuated response of newborn PMN to LPS in vitro.

## 12
## Infection and Distribution Patterns of Beta and Gamma Herpesviruses in Waldeyer's Ring Tissue

C. Berger*, M. Hug, D. Nadal. *Division of Infectious Diseases, University Children's Hospital of Zurich, 8032 Zürich, Switzerland*

**Background:** The lymphoid tissue of the oropharynx acts as a portal of entry and exit and as reservoir for the human beta and gamma herpesviruses (HHV) following primary infection and establishment of latency.
**Objective:** To elucidate frequencies and quantities of the human beta HHV (HHV-5, -6, -7) and gamma HHV (HHV-4, -8) in adenoids and palatine tonsils.
**Methods:** We determined the presence and the quantities of HHV-4, -5, -6, -7 and -8 in autologous adenoids and palatine tonsils from children undergoing three-tonsillectomy for medical reasons using in-house established quantitative polymerase chain reaction assays with lower detection limits ranging between 2 and 10 HHV DNA copies/μg DNA.
**Results:** HHV-4 (Epstein-Barr virus) was detected in 80% of the organs from 30 children, HHV-5 (cytomegalovirus) in 63%, and HHV-6 and HHV-7 in 77% each. HHV-8 was not detected. If detectable in a patient, HHV-4 was found in 73% in both adenoid and tonsils, HHV-5 in 23%, HHV-6 in 40%, and HHV-7 in 53%. The number of DNA copies of a given HHV in autologous adenoids and tonsils significantly correlated for HHV-4 and HHV-7 ($p = 0.04$ and $p = 0.0007$, respectively), but not for HHV-5 and HHV-6. The HHV DNA levels correlated between HHV-5 and HHV-6 in adenoids and tonsils ($p = 0.01$ and $p = 0.02$, respectively) and between HHV-5 and HHV-7 in tonsils ($p = 0.04$), but not between other HHV.
**Conclusions:** The different correlations of quantitative contents in autologous adenoids and tonsils suggest for HHV-5 and HHV-6 infection and distribution patterns distinct from those of HHV-4 and HHV-7.

## 13
## Randomized Controlled Trial of Oral vs. Sequential Intravenous/Oral Cephalosporins in Dimercaptosuccinic Acid (DMSA) Scintigraphy-documented Acute Pyelonephritis in Children

C. Berger, K. Buechner, E. Girardin*, U. Willi, T.J. Neuhaus, D. Nadal. *For the Swiss Pyelonephritis Study Group. Divisions of Infectious Diseases, University Children's Hospital of Zurich, Zurich, Switzerland*

**Background:** No study has assessed the efficacy and safety of oral antibiotics in children with DMSA-documented pyelonephritis.
**Objectives:** To compare efficacy and safety of oral versus sequential intravenous/oral cephalosporin treatment of acute pyelonephritis in children.
**Methods:** 235 children aged 6 months to 16 years with a febrile urinary tract infection – rectal temperature >38°, C-reactive protein (CRP) >10 mg/l, and bacterial growth in cultures from urine collected by catheter – were prospectively randomly assigned to receive either intravenous ceftriaxone (50 mg/kg once daily) for 3 days, followed by oral ceftibuten (9 mg/kg once daily) for 11 days or oral ceftibuten for 14 days. A first DMSA scintigraphy to detect acute renal lesions was performed within 5 days. Micturition cystogram and 2nd DMSA were performed after 6 weeks and 6 months, respectively. Exclusion criteria were complex renal malformations and septical appearance.
**Results:** 150 children (64%; 132 females (f) and 18 males (m); median age 25 months, range 6–189) had acute renal lesions on DMSA. 71 (47%; 61 f, 10 m; median age 20 months) were given cetriaxone/ceftibuten, 79 (53%; 71 f, 8 m; median age 27 months) ceftibuten. One patient from the oral regimen only had to be switched to intravenous therapy due to repeated vomiting. The 2nd DMSA showed persistent lesions (scars) in 33 children (46%; 29 f, 4 m) treated with ceftriaxone/ceftibuten versus 19 (24%; 18 f, 1 m) treated with ceftibuten ($p = 0.004$).
**Conclusions:** In children with DMSA-documented pyelonephritis, oral antibiotic therapy for 14 days with once daily ceftibuten is effective, safe and convenient, and resulted in significantly less renal scars than sequential intravenous/oral cephalosporin therapy.